DOCUMENT RESUME

ED 245 493 EC 162 853

AUTHOR Coleman, Lynne G.; Sweda, Janet P.
TITLE Communicative Interaction between Nonverbal, Severely Handicapped Children and Their Mothers.
PUB DATE Apr 84
NOTE 12p.; Paper presented at the Annual Convention of the Council for Exceptional Children (62nd, Washington, DC, April 23-27, 1984).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Communication (Thought Transfer); *Interaction; Interaction Process Analysis; *Mothers; *Parent Child Relationship; *Severe Disabilities; Young Children

ABSTRACT

The study examined the dyadic relationship between two nonverbal, severely handicapped children (5 and 6 years old) and their mothers. Ss were videotaped in a classroom at an early intervention program, and approximately 110 maternal verbalizations were transcribed. Among findings were that the dyads used little eye contact while communicating; children used movement and nonverbal behavior to communicate; and mothers' verbalizations were used to continue, request, describe, comment, or seek information. An outlined version of the study (with sections on subject characteristics, methodology, results, and implications) is attached. (SW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

COMMUNICATIVE INTERACTION BETWEEN NONVERBAL, SEVERELY HANDICAPPED CHILDREN AND THEIR MOTHERS

LYNNE G. COLEMAN and JANET P. SWEDA
SCHOOL OF SPEECH PATHOLOGY AND AUDIOLOGY
KENT STATE UNIVERSITY, KENT, OHIO

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

ED245493

INTRODUCTION

Mother-child interaction has been viewed as an important factor in the language development of both normal and handicapped children. The form and content of the language addressed to these children by their mothers has been described in a number of papers (Braunwald, 1973; Moerk, 1974; Phillips, 1973; Snow, 1977, 1979). In reviewing the communicative nature of the mother-child dyad researchers have examined interaction in both free play and structured situations. Traditional descriptions of mother-child interaction have considered primarily verbal behaviors; however, in recent years, the focus has broadened to include description of nonverbal, pragmatic and contextual information (Chapman, 1981; Cross, 1978; Elliot, 1981; Snow, 1979). As a result, the research directs data collection that examines ongoing behavior and provides careful recording, accurate transcription and detailed coding of communicative behavior (Tamir, 1979; Wells, 1979). The method of data collection most frequently used to achieve these objectives has been videotaping of subjects in their natural environment.

When observing dyadic interactions with physically handicapped children, an additional concern in both transcription and coding is that of non-communicative behavior. Many nonverbal, severely handicapped children communicate using a combination of vocalization and motoric behavior such as directive and random movement, tone and positional change. A description of mother-child interaction that includes attention to motoric, as well as linguistic, behaviors will more accurately capture the essence and progression of interaction, while remaining sensitive to the reciprocal behaviors of both members of the dyad.

METHODOLOGY

The purpose of the present investigation was to examine and describe the dyadic relationship between nonverbal, severely handicapped children and their mothers. Subjects in this investigation were two motorically-handicapped children and their mothers. Both children had oral-motor deficits significant enough to prevent the use of speech as their primary mode of communication. Yet, each child had the minimum ability to vocalize in vowels and alter inflectional patterns. Neither child had gross handicaps in vision or hearing. Both children were living at home with their natural parents. Each child attended a non-residential, early-intervention program. A was 5 years of age and D was 6.

EC162853

Interactions were videotaped in a classroom at the early-intervention program. Each mother was requested to play with her child in as typical a manner as possible. Each mother decided beforehand which activities she would attempt and which toys she would use. While a classroom may not be considered the most natural environment, these mothers and children spent a large part of their days in these physical surroundings. Videotaping can also constrain communication; however, these dyads were often videotaped in classrooms at the early-intervention program. It is the opinion of the authors that a "natural environment" is specific to the context and individuals involved in an interaction. With these dyads, videotaping at school was a frequent occurrence and thus can be considered a natural, social environment, typical of their interaction.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Janet P. Sweda
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Videotaping was completed by the Kent State University Teleproductions department under the direction of the investigators. Two cameras were used in taping so that the observers could more closely attend to the dyadic relationship. The picture that the cameras conveyed changed throughout the observed interaction. Camera placement changed according to directions given to the camera people by the investigators. Observer interference was lessened by the use of headset microphones and receivers by the directors and crew. Generally, cameras were moved in response to positional changes of the mothers and their children. For example, if mother and child were positioned front to back, the picture might show a front view of the activity and an over-the-shoulder view of the actions of the child. In a face-to-face position, the picture might show the faces of each dyadic member.

Approximately 110 maternal verbalizations were transcribed from videotape. Mother's verbalizations were used as markers in transcription to maintain some consistent boundary of interaction. Transcriptions reflected an ongoing sequence of activity between mother and child.

Transcriptions of verbal, nonverbal and contextual information were made. Observed behaviors were classified into two major categories: communicative and non-communicative (see Appendix). Communicative behaviors were further coded as pragmatic, semantic and syntactic. Pragmatic behaviors consisted of initiating, continuing, ceasing, requesting and responding. Semantic behaviors were denial, non-existence, naming, description, possession, recurrence, attention, information and comment. Syntactic behaviors included mean length of utterance and sentence types. Sentence types were coded as declarative, interrogative and imperative. Each communicative behavior that was observed was also listed as verbal or nonverbal. Non-communicative behaviors were identified as motoric and environmental. Motoric behaviors included positional change, direction and random movements.

Following initial transcription, data was segmented into smaller units of analysis labeled rounds. A round was defined as a sequence of related communicative and/or non-communicative behaviors. Rounds were initiated and concluded by attention and/or position change of the mother or child. Topic change, generally on the part of the mother, was most often responsible for ending the round.

RESULTS

Results of the transcription and coding revealed common and individual, maternal and child, interactional patterns. These mother-child dyads used little eye contact while communicating. D made no direct eye contact with his mother even though positioning of mother and child frequently allowed for it. A and his mother established direct eye contact twice during the period of observed interaction. However, opportunity for eye contact was limited due to position of mother and child.

In responding to and interacting with their mothers, these children communicated vocally, nonverbally and with directive movements. The children differed in the number and types of interactions they attempted. A initiated or continued interaction 42% of the time, using predominantly nonverbal methods, such as smiling or looking toward his mother. D, on the other hand, continued interaction only 9% of the time, using directive and random movements. Vocalization was used least often by both children.

Mothers' verbalizations were coded as pragmatic, semantic or syntactic. The pragmatic variables most often noted in interaction were continuing and requesting. These accounted for approximately 80% of the pragmatic behaviors used. Semantic variables most often observed were information seeking and commenting. A's mother made more requests and D's mother more comments and

descriptions. Mean length of utterance of both mothers was approximately equal, averaging 5.5 words per sentence. Sentence types most often used by A's mother were declarative statements, with substantially fewer interrogatives and imperatives. D's mother used predominantly interrogatives.

To summarize, data from this investigation were segmented into rounds consisting of communicative and non-communicative behaviors. Rounds were initiated and concluded by attention and/or positional change of the mother or child. The children used movement and nonverbal behavior to communicate and differed in number and type of interactions attempted. Mothers communicated verbally. Their verbalizations were used to continue, request, describe, comment or seek information. They generally used statements and questions averaging 5.5 words per sentence.

In conclusion, it is thought that careful recording, transcribing and coding of communicative and non-communicative behaviors provides a more complete description of interaction. Such description is important in examining the dyadic relationship between nonverbal, severely handicapped children and their mothers.

APPENDIX

I. Communicative Behaviors (Verbal and Nonverbal)

- A. Rounds
- B. Pragmatic
  1. Initiating
  2. Continuing
  3. Ceasing
  4. Requesting
- C. Semantic
  1. Denial
  2. Non-existence
  3. Naming
  4. Description
  5. Possession
  6. Recurrence
  7. Attention
  8. Information
  9. Comment
- D. Syntactic
  1. Sentence Types
     a. Declarative
     b. Interrogative
     c. Imperative
  2. Mean Length of Utterance

II. Non-communicative Behaviors (Facilitated and Inhibited)

- A. Motoric
  1. Position
  2. Directive Movements
  3. Random Movements
- B. Environmental
  1. Manipulative
  2. Nonmanipulative

REFERENCES

Braunwald, S. Mother-child Communication: The Function of Maternal Language Input. Word, 27, 197>, 28-50.

Chapman, R.S. Mother-child Interaction in the Second Year of Life: Its Role in Language Development. In R. Schiefelbusch and D. Bricker (Eds.), Early Language: Acquisition and Intervention. Baltimore: University Park Press, 1981.

Cross, T.G. Mother's Speech Adjustments and Child Language Learning: Some Methodological Considerations. Language Sciences, 1, 1978-79, 1:3-25.

Elliot, A.J. Mother's Speech to Children. (Chapter). In Alison J. Elliot, Child Language. Cambridge: Cambridge University Press, 1981.

Moerk, E. Changes in Verbal Child-mother Interaction with Increasing Language Skills of the Child. American Journal of Mental Deficiency, 7, 1974, 107-11.

Phillips, J.R. Syntax and Vocabulary of Mother's Speech to Young Children: Age and Sex Comparisons. Child Development, 44, 1973, 182-5.

Snow, C.E. Conversations with Children. In P. Fletcher and M. Garman (Eds.), Language Acquisition. Cambridge: Cambridge University Press, 1979.

Snow, C.E. Mother's Speech Research, from Input to Interaction. In C.E. Snow and C.A. Fergusen (Eds.), Talking to Children: Language Input and Acquisition, Cambridge: Cambridge University Press, 1977.

Tamir, L. Language Development: New Directions. Human Development, 22, 1979, 263-9.

Wells, G. Variations in Child Language. In P. Fletcher and M. Garman (Eds.), Language Acquisition, Cambridge: Cambridge University Press, 1979.

SUBJECTS

I. Children
   A. Child 1 - A.S.
      1. Social behavior observed in the classroom
         a. Visually orients in the direction of peers and adults
         b. Smiles
         c. Initiates and sustains interaction
         d. Inconsistently uses call switch and yes/no response
      2. Other communicative strategies
         a. Vocalizations - "um, ah, eng, e, je, a, u"
         b. Opens mouth without vocalization
         c. Upper extremity movement toward object or person
      3. Movement characteristics
         a. Muscle tone
            1. Very low overall tone which can be excited to normal
         b. Head/Neck
            1. Increased hyperextension with movement
            2. Little head control
            3. Head primarily facing right both statically and during movement
         c. Shoulder and upper extremities
            1. Lack of controlled shoulder movements
            2. Difficulty in bringing arms forward and in performing goal directed reach
         d. Pelvis, hips and lower extremities
            1. No trunk or pelvic/hip control
            2. Lower extremities remain "frogged"
      4. Age - 5 years
      5. Hearing and vision - within normal limits

   B. Child 2 - D.U.
      1. Social behavior observed in the classroom
         a. Cries and extends in seated position
         b. Sleeps to avoid task
         c. Upper extremity reach with prompts
      2. Other communicative strategies
         a. Smiles
         b. Vocalizes - "ugh, uh, ah"
         c. Upper extremity movement, not necessarily goal-directed.
      3. Movement characteristics
         a. Muscle tone
            1. Spastic quadraplegia fluctuating from high to low tone
         b. Head/Neck
            1. Increased hyperextension with movement
            2. Lack of head control
            3. Head primarily face right

(Child 2, cont.)

c. Shoulder and upper extremities
   1. Lack of controlled shoulder movements
   2. Increased muscle tone in upper extremities
   3. Hands fisted

d. Pelvis, hips and lower extremities
   1. Lack of trunk stability and pelvic and lower extremity control

4. Age - 6 yrs.
5. Hearing and Vision - medical finding inconclusive but indicate possible deficits.

II. Mothers
   A. Both primary caregivers
   B. Professional women before child's birth
   C. Age - 27 years at child's birth

METHOD

I. Equipment
   - A. Two cameras, each showing the dyadic relationship but focusing on one dyadic member.
   - B. Special effects switcher which generates a split screen effect
   - C. One microphone with automatic volume control

II. Environment
   - A. Setting - familiar classroom
   - B. Activities - play predetermined by mothers
   - C. Toys - provided by mothers

III. Transcription of videotapes
   - A. Verbal - mothers' verbalizations and children's vocalizations
   - B. Nonverbal - nonvocal communicative behaviors of mothers and children
   - C. Contextual - posturing of mothers and children and object manipulated

IV. Coding
   - A. Communicative Behaviors (verbal and nonverbal)
     1. Rounds
     2. Pragmatic
        - a. Initiating
        - b. Continuing
        - c. Ceasing
        - d. Requesting
        - e. Responding
     3. Semantic
        - a. Denial
        - b. Non-existence
        - c. Naming
        - d. Description
        - e. Possession
        - f. Recurrence
        - g. Attention
        - h. Information
        - i. Comment
     4. Syntactic
        - a. Sentence Types
          1) Declarative
          2) Interrogative
          3) Imperative
        - b. Mean Length of Utterance
   - B. Non-communicative Behaviors (Facilitated and Inhibited)
     1. Motoric
        - a. Position
        - b. Directive Movements
        - c. Random Movements
     2. Environmental
        - a. Manipulative
        - b. Non-manipulative

RESULTS

1. Children and mothers used little direct eye contact even when the position of child and mother allowed for it.

2. Children communicated verbally, nonverbally or with directive movements

	A	D
% verbal	28%	10%
% nonverbal	41%	21%
% movement	31%	69%

3. Children differed in the number and types of interaction they attempted.
   A. initiated or continued interaction 42% of the time by smiling, vocalizing and looking toward his mother. D. continued an interaction only 9% of the time using mostly directive and random movements.

4. D.'s mother awaited his response 64% of the time while A.'s mother awaited response only 20% of the time.

5. Mothers showed both commonalities and differences in their interactional patterns.
   A.'s mother made more requests, used declarative statements and few interogatives. D.'s mother used more comment, descriptions and interrogatives.

Pragmatic variables most often noted in interaction were continuing and requesting. They accounted for approximately 80% of of the pragmatic behaviors used.

MLU was equal at 5.5 words.

IMPLICATIONS

I. Eye contact
   A. Problem statement
      Although it is known that eye contact often preceeds the intent to communicate, little direct eye contact was seen between mothers and children.
   B. Role in communication
      Eye contact is an early social skill. The child learns to control his environment by focusing attention on people and objects to initiate and sustain interaction. Attention is withdrawn to cease the interaction. Social skills such as eye contact are generally learned through example. But when the most typical form fails, alternative methods must be used. We suggest using a continuum of indirect to direct prompts:
      1. Imitation - mother's imitation of child's sequence of interaction, as well as child's imitation of mother's sequence.
      2. Nonverbal prompts - facial expressions to indicate intent to communicate; exaggeration of actions; decreasing the rate of interactions.
      3. Verbal, nondirective cues - repeating an initiation or response, commenting on the need to initiate or respond without giving a direct command.
      4. Verbal, directive cues - asking the child or mother to respond or initiate an interaction.
      5. Physical guidance - physical and verbal commands to guide the sequence of interaction

II. Turn taking/response latency.
   A. Problem statement
      Basic to communication are the social rules of conduct, two of them being the pattern and temporal aspect of turn taking. The mother child dyads observed did not use a regular pattern and violated the temporal aspect of turn taking.
   B. Role in communication
      Turn taking is a foundation to interaction. It gives the child the opportunity to learn the importance of interacting and shows the child that his initiation generally leads to a response from the adult. For the child to learn an adequate turn taking pattern, the adult must constantly monitor the child's behavior to learn not only how but when to respond. Some suggestions to aid in monitoring are:
      1. Increase the time between adult verbalizations to allow the child to respond.
      2. Learn the child's average response latency.
      3. Determine verbal and/or motoric signs that preceed a response and react to them.

Paper presented at the Annual Convention of the Council for Exceptional Children (62nd, Washington, DC, April 23-27, 1984)